

## Swedish Forest Owners' Associations: Establishment and Development After the 1970s

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**Abstract** The context under which forest owners' associations operate has changed dramatically since the first ones were established in the 1910s and 1920s. The purpose of this article is to describe the development of these associations after their establishment particularly since the financial crises at the end of 1970s. The diffusion and merger theories form a conceptual base. The annual reports of the associations are the main data source. The number of forest owners' associations after 1,985 decreased dramatically and presently is only four. The consolidation can be explained by a wish to achieve increased efficiency through economies of scale and more influence on the wood market. After the financial crises at the end of the 1970s the number of members dropped sharply but has since then increased. Some associations have had significant financial problems. In the 1970s it became apparent that during economic downturns the relatively low proportion of equity made them vulnerable. Return on equity has, on average, during the 2000s been around 7–8 %. One problem for the associations is the risk that larger and more efficient organisations lead to increased “distance” between the associations and their members. Another problem is that the members cannot take advantage of the large value growth. Moreover, there is capital tied up in operations that do not really have any formal ownership.

**Keywords** Cooperative · Forest history · Family forest · Non-industrial forest owners · Small scale forest owners

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Please see the [Appendix](#) section for “Forest Owners' Associations Annual Reports”

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## Introduction

The aim of forest owners' associations is to promote the profitability of their members' forests. They achieve this through acting as an intermediary in selling members' timber to the forest products industry, offering services and advice, and lobbying. In Sweden there are presently four forest owners' associations affiliated to LRF Skogsägarna, i.e. The Federation of Swedish Family Forest Owners (known prior to 1,999 as the National Federation of Swedish Forest Owners' Associations—Sveriges Skogsägareföreningars Riksförbund). Together they cover the whole country and they account for about 99 % of the total membership (Andersson et al. 1980). Unlike a forest products company, forest owners' associations are owned and managed by their members through a non-profit democratic organisation. The role and function of the associations have changed a lot over the almost one hundred years that they have existed. Much of their history is already compiled and described by, among others,: Sveriges Skogsägareföreningars Riksförbund (1957); Andersson et al. (1980); Andersson (1988); Dahlgren (1990); Gummesson (1993); Åsling (1999); Karlsson (2001); Norra Skogsägarna (2008) and Karlsson (2011). However, there has not been a national overview in some time. This study can, at least partly, be seen as an extension of Anderson et al.'s study from 1980 describing the development of the first forest owner associations from the 1910s to the late 1970s.

Research about forest owners' associations in other countries often focuses on the role of the associations in helping members to achieve sustainable forest management as well as their role in acting as a stake holder in forest policy development. Jylhä (2007) described the role of local forest management associations in Finland. Kittredge (2003) studied Swedish forest owners' associations and concluded that the model they use is not directly applicable to the US where owners hold broader objectives than primarily focusing on timber transactions. Rickenbach et al. (2006) explored the differences between members and non-members of forest owners' associations in southwest Wisconsin, USA. Another example of an American study is Blinn et al. (2007) who asked fifteen experts to identify benefits, strengths, weaknesses, opportunities and threats to associations. Schraml (2005) researched the reasons for various assumptions made of neo-institutionalism with regard to the establishment and survival of German forestry associations. Mendes (2005) studied the role of forest services and associations in forest development. He has also studied how to motivate absentee private forest owners to be more active (Mendes 1998). During the last decade interest in forming associations has increased in the Balkan countries (Glück et al. 2010; Nonic et al. 2006).

Industrial policy and lobbying have played a major role when the Swedish forest policy has been formulated and have also been an important part of the associations' development. Sometimes the same people have held senior positions in both the associations and in government or parliament. This interaction has sometimes been critical for the development of the associations.

The members of an association have a dual relationship with that association. They are both owners and users of the association's products or services. The

members form an organisation to operate a particular type of production or to meet certain needs. Simultaneously the members are customers or suppliers to the association, thus they own and control the association's operations. This means that the exchange of resources such as goods, services and money between the members and the association is not controlled by pure market mechanisms. Instead, they are influenced by mechanisms that are determined through a democratic process (Nilsson 1991). However, it is far from always that an association is the best way to coordinate the various parties in a supply chain. At least two requirements must be met when forming an association. First, coordination is required which involves an exchange between different parties. This exchange is associated with transaction costs that vary depending on factors such as the involved parties' level of knowledge and investment. The parties choose coordination based on the lowest transaction costs; when transaction costs for a party increase, the incentive to integrate vertically decreases. Often management costs increase with increased vertical integration. Therefore the organisational structure depends on the value of transaction costs relative to administrative costs. The prospects for vertical integration are greatest when high transaction costs are combined with low management costs. The second requirement for forming an association is that coordination costs are perceived as sufficient to justify the formation of an association. Those who may benefit from an association need not be interested in forming one. They may, for various reasons, choose to accept a somewhat more expensive solution. It can even be difficult or inexpedient to form an association due to, for example, a lack of interest or the availability of other cooperating alternatives (op.cit).

If an organisation generates benefits that everyone can enjoy without them having to give anything in return one consequence may be that nobody wants to bear the costs associated with the organisation. Individuals do not want to invest resources in an organisation unless they get some benefits that are worth more than the input itself. Those who choose not to engage in an association can often utilise and share the common values that an association generates without incurring any running costs leading to the "the free-rider problem".

The purpose of this article is to describe the development of Swedish forest owners' associations, in particular over the past three decades through a number of financial indicators. The financial data used covers most years after 1979 while the physical data covers a longer period. Only associations connected to the LRF Skogsägarna are included in this study.

Diffusion theory is in this article used as a conceptual frame as are theories about mergers and acquisitions. The diffusion process of interest here is two-fold relating to the spread (i.e. establishment) of associations geographically (i.e. throughout the country) as well as the spread within an association (i.e. increase in membership).

## Theoretical Framework

Diffusion models are widely used in the social sciences to model a vast range of phenomena, from sales of new consumer goods to political behavior (Edling and

Liljeros 2003; Mahajan et al. 1990; Mahajan et al. 1990; Rogers 1995; Stern 1999; Strang and Soule 1998; Valente 1995; Wejnert 2002). Whatever the subject matter, all models share the idea that diffusion “is the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas” (Rogers 1995). The driving force of the diffusion process is the adoption of the innovation among social actors. A diffusion process goes on until either every potential adopter in the system has adopted the idea, or until no one adopts anymore. Sometimes, and often in marketing, adopters are classified after their timing of adoption, and one speaks of innovators, early adopters, early majority, late majority, and laggards (Edling and Liljeros 2003).

Most of the pioneer work on modeling diffusion processes comes from Sweden, where the spread of many innovations has been examined by Hägerstrand (1953). The thinking was that the probability of a person communicating with another person depends simply on the distance between them. We would expect the probability of a message passing between two people to be high when they are close together, and small when they are far apart. The S-shaped curve describing the course of a diffusion process is known as a logistic curve. It is a very common one in diffusion processes, and there are good theoretical and empirical reasons why such a curve describes many processes of diffusion in which some people who already have adopted an idea tell others about it (Gould 1969).

Institutional theories can be used for understanding the decreasing number of associations. These theories argue that over time, organisations develop unquestioned and preconscious political, cultural, and structural patterns and operating procedures that may not be useful or efficient for the organisation (Meyer and Rowan 1977). Selznick in his classic statement of the institutional school put it as “To institutionalize is to infuse with value beyond the technical requirements of the task at hand” (Scott 1987). Framing the rise and fall of mergers and acquisitions waves in institutional theory helps us to understand many of the dynamics that come into play in each of three stages: development, diffusion, and dissipation. The first two stages are of special interest in this context. Mergers and acquisitions activity has been viewed as a tool for everything from increasing market share to diversifying products and services; gaining operational flexibility, gaining new skills and personnel; improving innovation and learning; sharing risk; pruning managerial deadwood; and trimming the fat in the national economy and increasing global competitiveness (Jensen 1993; Marks and Mirvis 1998; Walsh and Ellwood 1991; The Year of the Mega-Merger 1999).

## Materials and Methods

Data were gathered from forest owners’ associations’ annual reports. All annual reports from 1979 to 2010, except three, were studied at the LRF’s archives. Thus, this study covers a period of 30 years and the result is based on 251 annual reports. Financial and other quantitative data of interest for the study were recorded in an Excel data sheet. Using these data financial calculations were made and presented in

statistical overviews. Data from Andersson et al. (1980) have been used to describe the diffusion process during the period 1925–1978.

A weakness of annual reports is that they are influenced by the purpose of the financial statements, i.e. the impression the associations want to give and also legal and formal requirements. Thus, to some extent this report reflects the association's view of itself (Andersen and Gamdrup 1994).

There is no template for what an annual report from a forest owners' association should consist of besides what is required by law. Because of the long period studied and the large number of annual reports, variations exist. In some cases it was difficult to determine how a particular financial indicator was defined. The requirements for financial statements have also changed over the 30 years. On a few points, however, the differences between associations and over time were so great that adjustments were necessary. An organisation may choose whether to report for a calendar year or for a specified financial year. During the period studied, some associations used a divided financial year, while others used a calendar year. Associations using a divided financial year defined the financial year in different ways. In addition, some associations changed from a divided financial year to calendar year, and vice versa. In special cases, the financial statements included a period from eight to 16 months and thus represented a period twice as long as others. In this work, all statements except two covered a full financial year and were transformed to the calendar year where most of the months belong. During the storms Gudrun and Per, Södra chose to extend the financial year 2005 to 16 months. The same happened the following year. Hence during the period January 2005 to December 2007 Södra only published two reports, each one covering a period of 16 months. To avoid misleading results, data from these two statements were separated into 3 years.

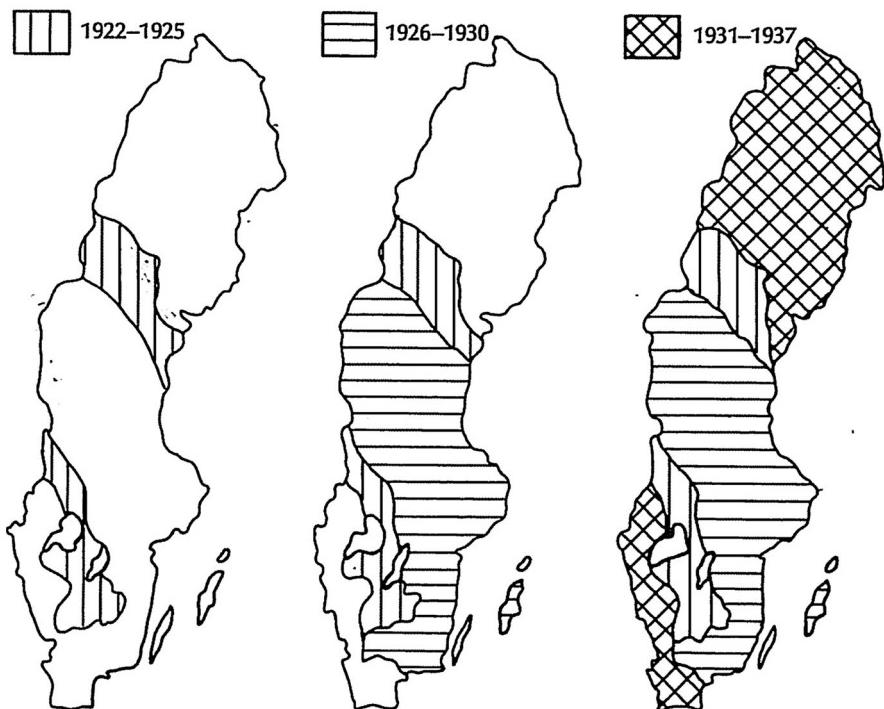
## Results

### Diffusion and Mergers of Forest Owners' Associations

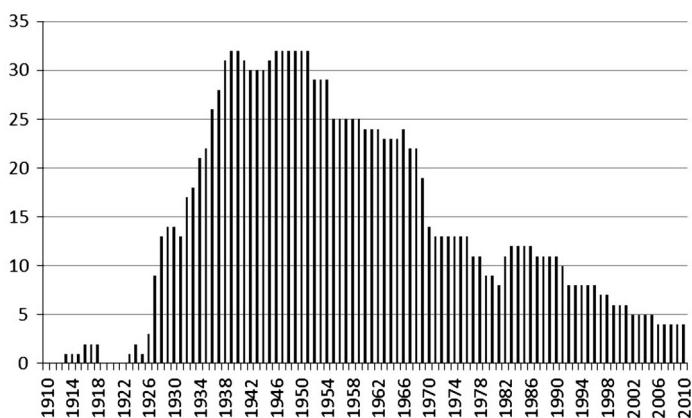
The first associations were established in the south of Sweden where small scale forestry dominates and in the centre of Sweden (Fig. 1). After a period of time the "gap" between these two areas was filled. Thereafter associations were established in the more peripheral areas. From 1951 and until 2006 the number of associations decreased by a fairly steady rate from 32 to four (Fig. 2). Since then, the number has been constant.

### The Four Associations that were Active in 2012 Included from South to North

- Södra Skogsägarna;
- Mellanskog;
- Norrskog;
- Norrländska skogsägare.



**Fig. 1** The associations' geographical diffusion



**Fig. 2** Number of forest owners' associations

At the end of the 1970s the Swedish forest industry was hit by low demand and low prices. A consequence was the bankruptcy of the forest owners' association Vänerskog in 1981. The forest owners around Lake Vänern had no association for a short period. Instead of letting any of the existing associations close to this area

expand, the forest owners chose to create four entirely new forest owners' associations.

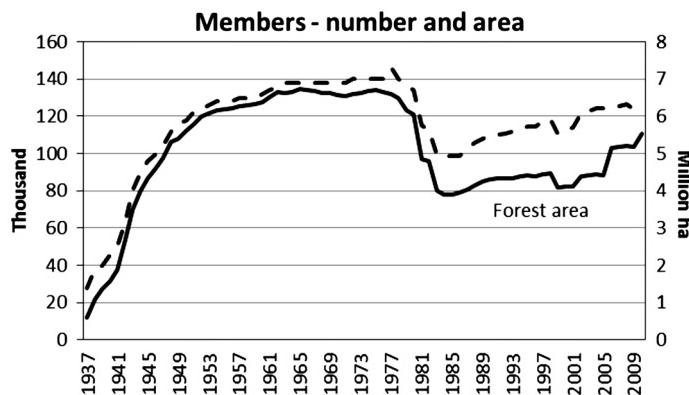
The membership development from 1937 to the end of the 1970s coincides with a typical S-shaped diffusion process (Fig. 3). The serious crisis in the late 1970s for the Swedish forest sector had quite an impact on member development in the early 1980s. In the first half of the 1980s, total membership plummeted from over 120,000–78,000. Many members chose to leave their association when they realized how serious the situation was. Among those associations that survived the crisis years, Södra was hit hardest by member losses. In addition, the bankruptcy of Vänerskog meant that 22,000 forest owners lost their association. Only a limited number of owners who previously were members of Vänerskog chose to join any of the new associations formed after the Vänerskog's bankruptcy. During the time these new associations existed as independent associations they managed in total to attract about 6,000 members. After the large losses, membership of the associations in southern Sweden slowly started to increase. Between 1984 and 2005 the total number of members increased by 10,000. During that period, the associations also removed double registrations and inactive members from their registers.

Changes in the Association Act forced forest owners' associations to count their members based on the number of individuals instead of number of estates. The Act also required a review of the entire membership register. Södra started to disclose their members in the new way in 2006 and in 2010 Mellanskog also followed the new guidelines. The increase in number of members during these years can be explained therefore by the new way of counting.

The total forest area belonging to members did not fall as sharply as the number of members after the crisis years (Fig. 3). This means that those members who chose to leave owned relatively small holdings. Between 1979 and 2005, the average area owned per member increased from 55 to 70 ha. Following the introduction of the new method for counting membership the area per member decreased to 60 ha. Neither the number of members nor the total area have recovered fully after the sharp decline in the 1980s. The increase in the member area corresponds approximately to three-quarters of the decline. Until 2005 the corresponding figure for the number of members was just one quarter.

### Membership Fees and Services Offered

The membership fee a member of Södra pays, taken as an example, is 600 SEK per hectare of forest land with a maximum of 120,000 SEK. Usually the fee is paid is 4 % of the income from delivered roundwood although it is possible for members to pay less, especially new members. Capital contributed by the members belongs to them and an annual interest is paid. Based on the deliveries of roundwood during the previous year and the profit for the industrial part, a so-called "post-payment" is paid. If a forest owner leaves the association the contributed capital is paid back. No requirement for roundwood deliveries exists but if this has been the case for several years the member is contacted and asked if she/he is still interested in membership. The association offers a set of different services such as harvesting, transportation, the provision of plants, planting, and the production of forest management plans.



**Fig. 3** Total number of members and forest area

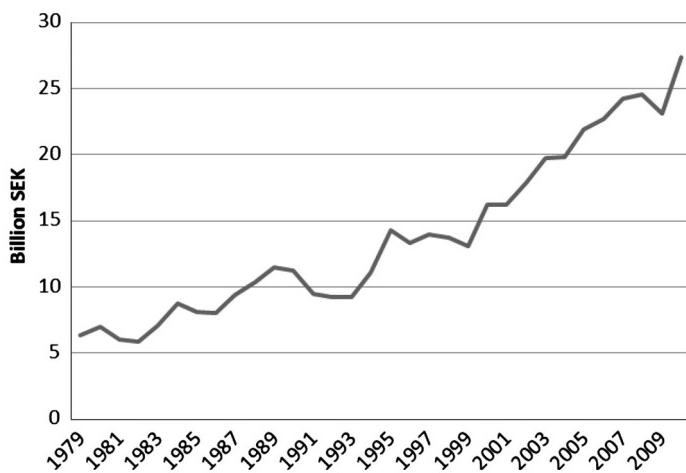
Additionally certification of the land (PEFC and/or FSC) is organized which provides a premium of 20 SEK/m<sup>3</sup>. The association also offers a guarantee against ground damage. Forest management courses are offered ([www.skog.sodra.com](http://www.skog.sodra.com)). The associations own forest products companies. It is only Södra that owns pulp mills. Paper mills are not owned.

#### Financial Development

Financial growth in the forest owners' associations including forest products companies owned by the associations increased dramatically during the period studied (Fig. 4). In the early years of the 1980s, the turnover (total sales) fell due to a sharp drop in production in the forest products companies owned by the associations. By 1983 production started to grow and sales doubled during the remainder of the 1980s. The 1990s was marked by two recessions, as a consequence sales decreased during much of this decade. The exception was the years 1994–1995, when turnover increased rapidly and in 1997 when a slight increase occurred. In the 2000s, growth rose again. Sales increased almost linearly with the exception of 2009 when the next recession caused by the global financial crisis temporarily reduced the associations' turnover. Over the past 10 years, sales doubled.

Södra had a much higher turnover than the other associations in 2010 (Table 1). It also had a significantly higher growth rate and from 2000 onwards it accounted for the majority of total sales. Södra's forest products companies accounted for about ten billion SEK over the last 4 years.

Although the financial results (i.e. profits/losses) for the associations in most years were positive and the losses reported some years were relatively small, some associations had significant financial problems. It is worth mentioning that both Mellanskog's and Skaraborg's skogsägare had financial problems in the late 1990s. Skaraborg's skogsägare went bankrupt in 1999, while Mellanskog was supported by the LRF and was forced to sell a majority of its shares in its industrial companies. The financial results were also influenced by supplementary payments to those



**Fig. 4** Forest owners' associations' and subsidiaries' turnover, nominal

**Table 1** Total turnover for associations and its subsidiaries, average 2007–2010

| Association       | Turnover in million, SEK | Association's share of total turnover (%) |
|-------------------|--------------------------|---|
| Södra             | 17,963                   | 72  |
| Mellanskog        | 3,178                    | 13  |
| Norra skogsägarna | 1,855                    | 8   |
| Norrskog          | 1,822                    | 7   |
| Total             | 24,818                   | 100                                       |

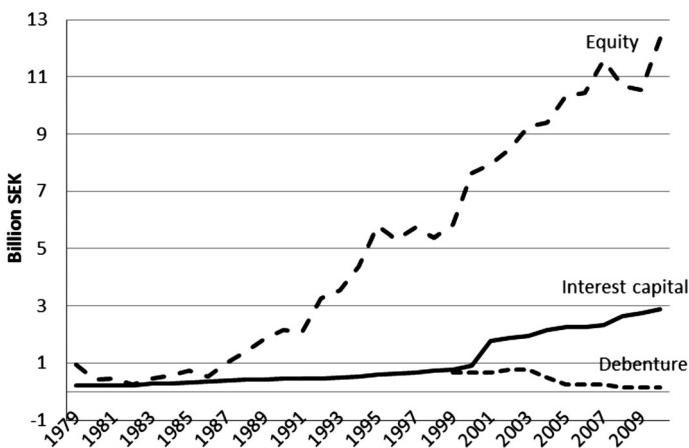
members who had supplied timber during the past year. At the end of the period Södra's financial performance was substantially higher than that of the other associations (Table 2) due to its large industrial operations.

Equity is capital belonging to the company (owners) and is a buffer that will prevent or postpone bankruptcy. It also gives the leadership time to restructure the company and/or take actions for example to increase efficiency and/or increase sales. In the 1970s it became apparent that during economic downturns the relatively low proportion of equity in forest owners' associations made them vulnerable. Consequently, they started to build up the equity (Fig. 5) by balancing part of the financial result or by increasing members' capital contribution.

At the beginning of the 1980s, the value of equity was about the same size as the members' capital contribution and was at a low level compared with the total capital. Members' contributed capital increased at a fairly slow rate through a percentage deduction made from the reimbursement for timber deliveries and associations annually paying a certain rate for the capital contributed. The equity of the associations increased considerably faster because of the financial results of the associations and the forest products companies owned by the associations. This has meant that most of the equity in the associations is no longer linked to any

**Table 2** Financial performance, average 2007–2010, million SEK

| Association       | Operating profit, SEK | Profit after financial items, SEK | Profit/loss for the year, SEK |
|-------------------|-----------------------|-----------------------------------|-------------------------------|
| Södra             | 1,343                 | 1,358                             | 1,112                         |
| Mellanskog        | 24                    | 26                                | 18                            |
| Norra skogsägarna | 24                    | -6                                | -4                            |
| Norrskog          | 30                    | 29                                | 23                            |
| Total             | 1,421                 | 1,408                             | 1,149                         |



**Fig. 5** Forest owners' associations including the subsidiaries' equity, members' participation issue and debentures

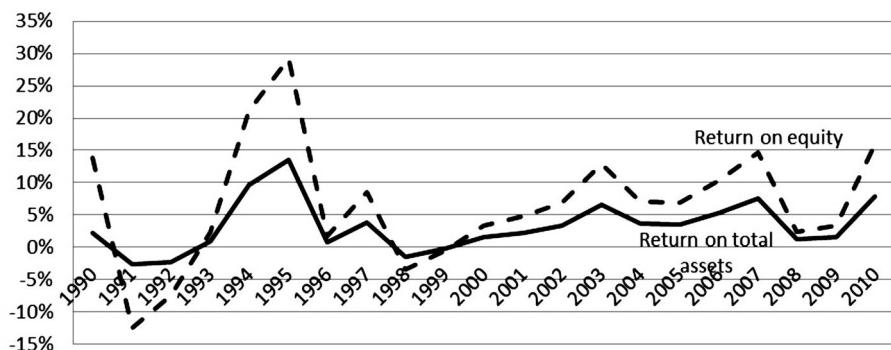
individual member. Thus, the members cannot take advantage of the increased value of the associations and their subsidiaries.

In the year 2002 it became possible for the associations to introduce what can be called capital emissions or debenture issue. This meant that it was possible to transfer part of the “free” equity not linked to any member to contributed capital. The associations utilised this opportunity, which meant that the contributed capital doubled. A few years earlier, the associations also began to use subordinated debentures as an opportunity for members to invest in the associations in a way that can be considered as a mixture between member loans and intermediate debenture issues similar to buying shares. This was also a way for associations to attract new capital to finance new investments. Debentures were used mostly by Södra during the early 2000s and have since then decreased. The average equity, capital contribution and subordinated debentures, for the period 2007–2010 are shown in Table 3. Despite the emissions and subordinated debentures, only a quarter of the equity is attributable to members, the rest is owned collectively.

During the 1980s, associations in some years had a very small capital base. This meant that the return on equity became very high when the associations had

**Table 3** Total equity in the associations and its subsidiaries, average 2007–2010, million SEK

| Association       | Equity | Participation issue | Debentures |
|-------------------|--------|---------------------|------------|
| Södra             | 10,362 | 2,120               | 160        |
| Mellanskog        | 152    | 279                 | 0          |
| Norra skogsägarna | 345    | 113                 | 0          |
| Norrskog          | 430    | 140                 | 0          |
| Total             | 11,289 | 2,654               | 160        |



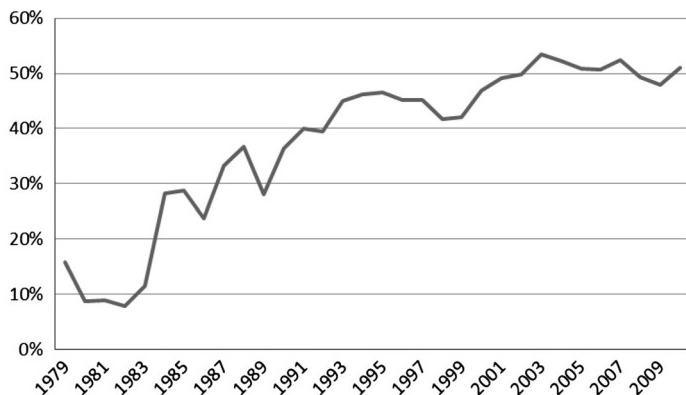
**Fig. 6** Return on equity and total assets, respectively, for the forest owners' associations, including subsidiaries, 1990–2010

a positive financial result. In 1983, the combined rate of return for all associations was over 170 % and for the years 1986 and 1988 the return was about 60 %. If the total capital had been used instead as a denominator the rate of return would have been 14 and 8 % in the corresponding years. The financial returns from forest owners' associations' and subsidiaries' operations are shown in Fig. 6. As the extreme rate of returns in the 1980s would completely "hide" the variations during the remaining period only the period after 1990 is shown. The average rates of return for the associations during the period 2007–2010 are shown in Table 4.

Solidity is a measure of the "buffer" of capital owned by the company owners compared with the total capital used by the company. Low solidity means that the share of loans is high which increases the risk banks are taking, i.e. risk for bankruptcy. After the crisis years in the late 1970s, the forest owners' associations' solidity increased (Fig. 7). From a level of around 8 % in the early 1980s, the solidity of the associations increased by balancing part of the financial result. In 10 years the solidity increased to 40 %. Since then it has continued to increase but at a much slower rate and in the last 10 years, the solidity remained relatively unchanged at about 50 %. However, there are large variations between the associations (Table 5) and these differences have also increased over the period.

**Table 4** Associations' including subsidiaries' rate of return, average 2007–2010

| Associations      | Rate of return on equity (%) | Rate of return on total assets (%) |
|-------------------|------------------------------|------------------------------------|
| Södra             | 9.5                          | 5.8                                |
| Mellanskog        | 10.9                         | 1.1                                |
| Norra skogsägarna | -1.2                         | -0.0                               |
| Norrskog          | 5.2                          | 1.7                                |
| Total             | 9.2                          | 4.5                                |



**Fig. 7** Solidity as an average for all forest owners' associations and their subsidiaries

**Table 5** Associations' and their subsidiaries' solidity, average 2007–2010

| Associations      | Solidity (%) |
|-------------------|--------------|
| Södra             | 60.5         |
| Mellanskog        | 7.4          |
| Norra skogsägarna | 17.6         |
| Norrskog          | 31.1         |
| Total             | 50.2         |

## Production Facilities

Forest owners' associations' forest products companies were hit hard by the crisis years in the late 1970s. The crisis meant that the associations within a short period halved the number of companies owned. The number of owned sawmills has continued to decline while production in the remaining sawmills has doubled since the early 1990s. Of the pulp and paper companies owned by the associations only Södra's mills remain. Production in these mills has also doubled but is still lower than the total production for all forest owners' associations' pulp and paper mills before the crisis years. The forest products companies have played an important role in strengthening the financial situation of the associations. They have also played an important role when financing larger investments.

## Discussion

Most of the literature about forest owners' associations deals with the role they play for their members (see, for example, Jylhä (2007) and Blinn et al. (2007)). However, Schraml (2005) studied the survival of German associations. This article's contribution is to study the development of the Swedish associations after 1978. This is of interest also for other countries with associations and not the least for countries where associations recently have been established. It is also of interest to compare this development with that of other diffusion processes. The study as such has also a value as a document of a historical process which complements studies of the development during previous decades.

One likely reason for the establishment of the first forest owners' associations in southern Sweden is that most of the forest, about 80 %, is owned by small-scale forest owners. It is more difficult to understand the establishment in middle Sweden. It may have been a coincidence. One or maybe a group of devoted persons could have picked up the idea about cooperatives. It may also be that the idea came from agricultural cooperatives. Such cooperatives had been established in Sweden during the last half of the nineteenth century. Originally the concept of cooperatives came from England where the first consumer cooperative was established in 1844.

The number of associations and members follow the typical S-shaped diffusion curve. One can differentiate between innovators, early adopters, early majority, late majority and laggards (compare, for example, Edling and Liljeros 2003). There is a mature phase for the number of associations during the 1940s and for the number of members during the 1960s and 1970s. The reason for the decreasing number of associations after the 1940s was that associations merged in order to increase their influence on the roundwood market, to make it possible to finance investments in production facilities and to increase efficiency which is in accordance with studies about mergers and part of the institutional theory. The smaller associations had either difficulties managing their own finances or had trouble with keeping the same efficiency level as the big associations. The break in the "merging-trend" after Vänerskog's bankruptcy in 1981 was temporary. In 1987 the structural changes continued and the number of associations once again decreased. Since 2005, the associations' structure has remained unchanged. The number of associations is currently four, which means that the potential for further consolidation among the associations is limited but not impossible. For the foreseeable future it is difficult to see any major changes in the structure. Certainly the existing associations will have to adapt to the changes in society, not the least to the changing ownership structure. A new type of owner will have to be dealt with, in particular an owner for whom environmental issues are of great importance and for whom the financial importance of the forest is reduced and who lives outside the forest. For associations with production facilities adoption to new market situations is necessary which means changes in the production structure.

One consequence of the financial crisis in the late 1970s was a sharp decrease in the number of members. When Södra's members realised how serious the situation was, i.e. the necessity to obtain financial support from the government, many members chose to leave the association in the early 1980s. After Vänerskog's

bankruptcy some of the former members wanted to fill the vacant space and thus decided to establish new associations, in total four. The option to form one new association, or alternatively let any of the existing associations around Vänerskog's region take over the business was less attractive because the bankruptcy had a deterrent effect on the former members. This made it easier to establish several small associations where it was possible to view and understand the entire business and the individual members had more influence.

During the 1950s urbanisation accelerated. It raised concerns as to the supply of a workforce for forestry. At the same time expensive machines started to be used in forest operations. The associations wanted to support their members by providing services (e.g. cuttings, transportation, provision of plants, plantings, production of forest management plans) as they did not want the forest owners turning to the big forest products companies. Cooperation between the members was organised in forest areas. A region where the association operated was divided into a number of forest areas. The first forest area was established 1955. A civil servant was hired who was responsible for planning and also for giving advice. He/she also had the responsibility of employing workers and providing necessary machines. The members could join a forest area by signing a contract where they bound themselves to use the offered service to a certain extent and also sell their cuttings through the association. This made it possible for the associations to build up a harvesting organisation as efficient as that of the forest products companies. Diffusion of the areas followed the same trend as for associations. Later as a consequence of the technical development a functional organisation was introduced which made it possible to take advantage of economies of scale. The areas grew bigger. At the beginning of the 1970s the forest areas became a part of the associations operations and the special membership was taken away. The areas became more of a contact link between the associations and their members. Difficulties in finding committed members who wanted to assume positions of trust in the "forest areas" might also have been a contributing factor in the increase of the forest areas. There might also have been a risk that the intention to form larger and more efficient forestry areas increased the "distance" between the associations and their members. It then became possible to lose "anchoring" to the members and as a consequence the officers start to act on their own as in regular forest products companies.

The financial situation of forest owners' associations has improved considerably over the period studied. It should be noted that the variation between different associations is great in many areas. In addition, Södra accounts for a relatively large proportion of the total turnover and other financial indicators. The crisis years in the late 1970s made it necessary to inject new capital into the associations and increase their solidity to avoid a similar situation occurring again. In this respect there are major differences between the associations. The average solidity of all the associations increased from 8 to 50 % over the studied period as profits accumulated in the associations increased. Yet, the portion of equity that is linked to members has not followed the same trend. Members' contributed capital has increased by a reduction in timber cash payments, interest, and sometimes by participation issues. This has meant that the members cannot take advantage of the large value growth

that has occurred for the associations. Moreover, there is a lot of capital tied up in operations that do not really have any formal ownership.

The study is based on data from annual reports. This means that some weaknesses exist. One is that the rules for reporting and also the method of reporting have changed over the years. There are also differences between the associations. Three annual reports from one small association could not be found which can be seen in Fig. 3 as a dip during the years 1999–2001. However, of more importance is the change in the way of reporting membership during the 2000s which gives an impression of quite an increase in membership which is not real. Comparison between individual years may therefore be misleading. However, the time series gives a good overall picture of the trend.

It would be interesting in future research to study the connection between the political establishment and the development of the associations. In particular it would be interesting to investigate what this has meant for the diffusion and the development.

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## Appendix

Forest Owners' Associations annual reports (all in Swedish)

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